

# Green Energy Oilfield Services, LLC

The First All Natural Gas (LNG) Fueled Oilfield Services Fleet in Texas

Joe Monroe - President & CEO

Railroad Commission of Texas

Laredo NGV and NG for E&P Workshop

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# **Company Overview**

- Green Energy Oilfield Services, LLC (GEOS), is a private equity backed oilfield service company which began operations in mid-2012
- \* With over 180 employees, GEOS operates out of five truck and tank yards in Texas: Fairfield, Marquez, Gonzales, Three Rivers and Asherton
- ❖ GEOS owns and operates 97 heavy duty tractor trucks (60 single tank and 24 dual tank LNG fueled tractor trucks), 84 vacuum trailers, 425 frac tanks, 35 acid tanks, 20 gas busters and 6 mud pumps
- ❖ Today, EOG, Anadarko, Encana, SM Energy and XTO business represents over 80% of GEOS's current revenue



# **Company Services**

### Current

#### **Vacuum Trucks**

Green Energy Oilfield Services' vacuum trucks are Peterbilt 388 tractors powered by a Cummin ISX 15 liter engine that is outfitted with technology from Westport HD that allows the tractor to be fueled by liquid natural gas (LNG).

#### Winch Trucks

The winch trucks utilize the same LNG technology as our vacuum trucks. These vehicles are use to move equipment such as frac tanks and mud tanks to our customers locations to meet their needs.

#### **Haul Trucks**

Green Energy Oilfield Services employs a fleet of haul trucks that augment our services and allow us to meet additional transportation needs.

#### Frac Tanks

Dragon Model 500-Barrel Corrugated Wall, Liquid Storage Tanks come equipped with new running gear, 10 mil DFT chemical resistant liners. All tanks are steel grit blasted. All are built from new 1/4" Heavy Duty Corrugated Steel. They are available for rent / lease for short term & long term fluid storage needs of our customers.

#### **Mud Tanks**

We also provide mud tanks on a rental / lease basis. The tanks are used for the storage of drilling MUD during the exploration process.

#### **Acid Tanks**

Acid tanks are purpose built frac tanks that are utilized during the hydraulic fracturing process if corrosive fluids are needed to complete to frac-ing process. Each tank is specially lined to withstand the corrosive effects of the these fluids.

#### **Gas Busters**

Gas busters are used to remove free or entrained gas from fluids circulated in the wellbore, such as mud used during drilling operations. The gas buster typically comprises a vessel containing a series of baffles with a liquid exit on the bottom and a gas-vent line at the top of the vessel. These are also available for lease / rental.

### **Mud Pumps**

Along with our mud tanks we also provide mud pumps. A mud pump is a reciprocating piston/plunger device designed to circulate drilling fluid under high pressure (up to 7,500 psi (52,000 kPa) ) down the drill string and back up the annulus.

## **Future Additions**

### **Disposal Wells**

Proprietary salt water disposal wells can provide GEOS with increased utilization of existing assets and better economics of daily operations. This allows for a competitive advantage in capturing new business. Excess capacity may be marketed to generate additional revenue.

### **Fuel Hauling**

GEOS may further reduce operating costs by transporting its own LNG and Diesel fuel to its fueling stations at each yard.

### **Crude Oil Hauling**

GEOS may further diversify revenue generation by adding additional equipment to transport crude oil from the lease to market locations.

### **Work Over Rigs**

Green Energy Oilfield Services in conjunction with it's industry partners is working on the development of LNG (Liquid Natural Gas) powered workover rigs. Workover rigs are mobile service platforms that perform maintenance and service work on existing wells.

# LNG Technology



**LNG Engine** 



On Location

## Original 60 Truck Purchase in 2012

- 2013 Peterbilt 388 Tractors
- **Cummin ISX 15-liter Engines**
- Outfitted to Westport GX 15-literEngines
- **475** Horsepower
- ❖ 1750 lb-ft Torque
- **Eaton Fuller 10-speed Manual Transmission**
- 46,000-lb Capacity Dana Spicer Tandem-Drive Axles
- Peterbilt Airtrac Suspension
- Bendix Air Disc Brakes
- Cruise Control
- Roll Stability
- \* 120 Gallon LNG Tank
- Fruitland Vacuum Pump
- GeoForce GPS
- \* \$240,000 per truck (fuel system adds \$60,000, to a comparable diesel at \$150,000)



# **Service Equipment**

**Vacuum Truck** 



Winch Truck



**Truck with Dual LNG Tanks** 



**Haul Truck** 



# **Rental Equipment**

Frac Tank



Acid Tank



Mud Tank





Gas Buster





# Fueling Equipment









# End Market Overview & Analysis

## Current

## **Future Customers**

## **Vendors**







































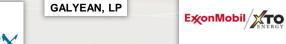








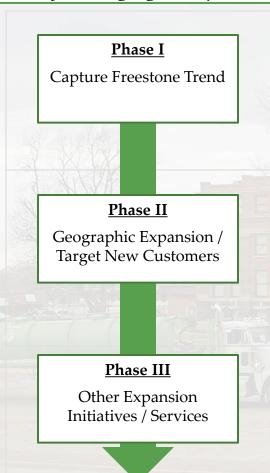
Clean Energy





# Strategy

GEOS has a well-defined strategy to substantially increase its customer base and geographic focus by leveraging its capabilities, reputation, personnel, relationships and equipment.



## Begin operations and services for XTO

• First-call agreement with a three year commitment creates a solid initial revenue stream

## <u>Target other Freestone operators</u>

• Anadarko, Devon, Encana, as well as the numerous other independents operating in the Freestone trend

## Expand operations to the Eagle Ford Shale

 Operate three facilities in South Texas providing fluid management services to SM Energy, EOG and Forest Oil

## **Target Additional Operators**

 Anadarko, Marathon, Chesapeake, Pioneer, Conoco Phillips, Cabot, BlackBrush, Hunt

## **Broaden Service Offering**

- Existing customer base has expressed interest in expanding the current service areas / offerings, including, but not limited to: workover rigs, crude oil and fuel handling/transfer, salt water disposal wells and slickline trucks
- Geographic expansion into the Permian Basin and Cline Play

# Questions?





Preserving Tomorrows Environment By Taking Action Today

# **APPENDIX**

# **Company History**

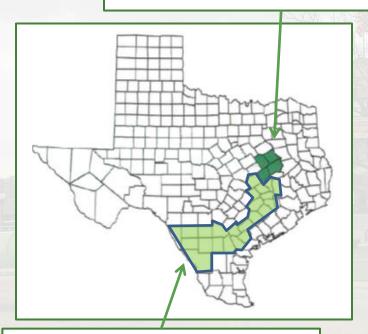
- Currently headquartered in Fairfield, Texas, Green Energy Oilfield Services, LLC ("GEOS") is a leading provider of fluid management services including, transportation, storage and disposal services for major and independent exploration and production companies
- In November 2011, GEOS partnered with Texas-based companies to construct its equipment as well as its corporate headquarters, underscoring the Company's commitment to the regional economy
  - New Braunfels-based Rush Peterbilt Truck Centers and Denton-based Peterbilt developed the fleet of the first 60 LNG-powered vehicles; Dragon Products, based in La Porte, manufactured 60 vacuum trailers, 425 frac tanks, acid tanks, gas busters, mud tanks and mud pumps; Clean Energy, plant based in Houston, provides the LNG to fuel the Company's fleet
  - Project financing was provided by Lone Star Investment Advisors, a Dallas-based private investment firm and operations began in the second quarter of 2012
- GEOS was formed with the goal to be one of the first companies in the fluid transportation industry to supply such services through the utilization of liquefied natural gas ("LNG") powered trucks, a proven technology that can offer significant costs savings (approximately \$2 / gallon) over traditional diesel powered trucks. By utilizing LNG, a cleaner alternative fuel, they not only drastically reduce emissions, they also help to decrease our country's dependency on foreign energy products
- GEOS was able to negotiate a three year memorandum of understanding with XTO Energy ("XTO"), a subsidiary of ExxonMobil, to provide its services on a first-call basis for all of XTO's operations in the Freestone Trend of Central / East Texas as the basis for the startup of the company

# Outlook and Strategic Plan

Current

### **XTO Freestone Trend Statistics**

- Freestone, Limestone, Leon and Robertson counties
- 290,000 acres, over 3,500 producing wells
- Water storage / disposal needs of ~ 40,000 barrel / day

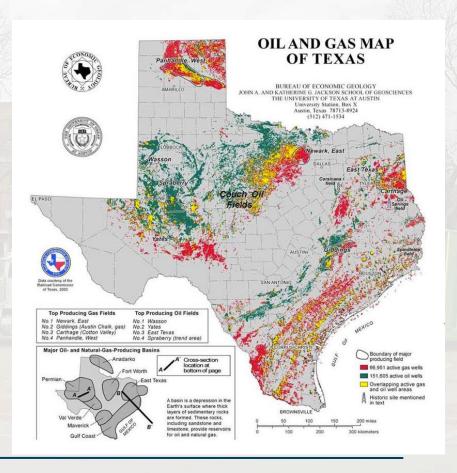


### **Eagle Ford Shale Statistics**

- Spans over 20 counties in South Texas
- 12,200 drilling permits have been issued to date
- There are over 265 drilling rigs currently operating
- \$30 billion planned to be spent in 2014

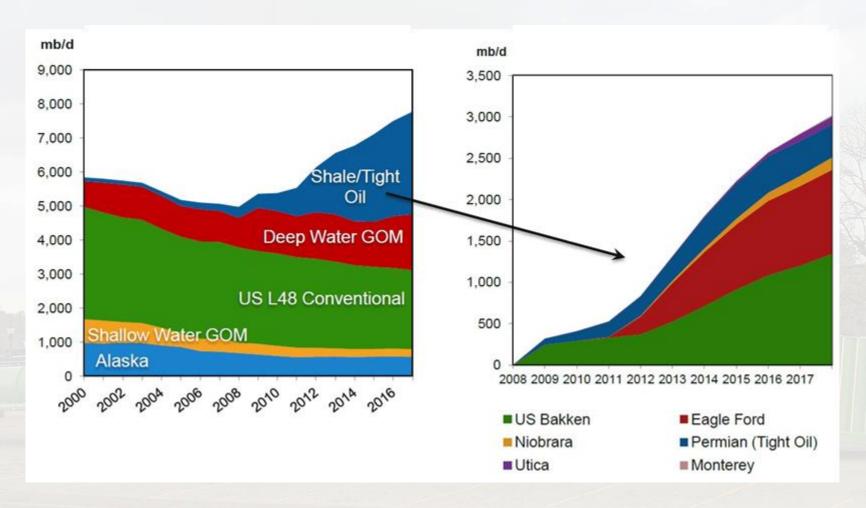
### **Future**

- Permian Basin
- Wolfcamp
- Cline



# U. S. Oil Production

# Oil production from known unconventionals is significant

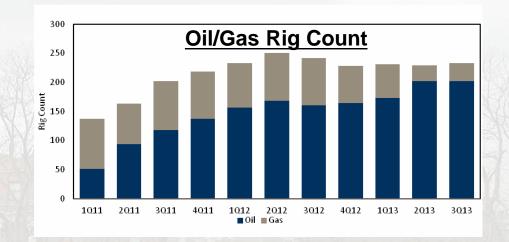


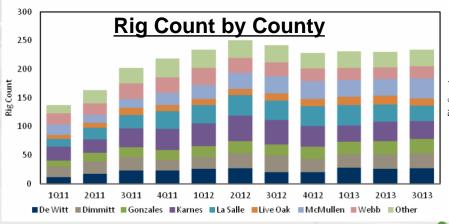
Source: PFC Energy April 2013

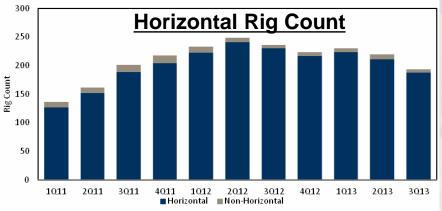


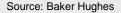
# **Eagle Ford Rig Count**

- ~13% of US land rigs are in the Eagle Ford (currently 272 rigs)
- Rig count has grown from 60 to over 200 rigs from 2010 through 2012
- Activity has shifted from 38% oil in 1Q11 to 87% currently
- Growth has started to flatten in the past year and a half due to rig efficiency
- Activity in the basin continues to lead to an increase in well count without the addition of incremental rigs



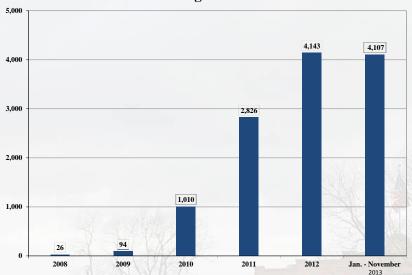




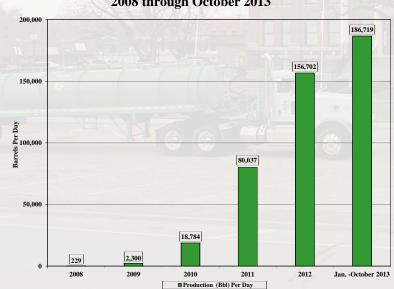




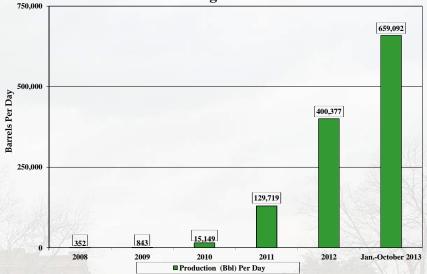
Texas Eagle Ford Shale Drilling Permits Issued 2008 through November 2013



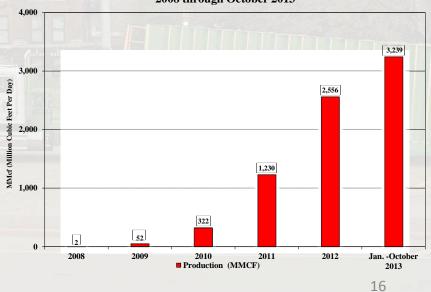
Texas Eagle Ford Shale Condensate Production 2008 through October 2013



Texas Eagle Ford Shale Oil Production 2008 through October 2013



Texas Eagle Ford Shale Total Natural Gas Production 2008 through October 2013



Source: Railroad Commission of Texas Production Data Query System (PDQ)